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EXAMINER

SCHILLINGER, LAURA M

ART UNIT PAPER NUMBER

2813

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/869,347

Applicant(s)

UCHIDA ET AL.

Examiner

Laura M. Schillinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-73 is/are pending in the application.
- 4a) Of the above claim(s) 56-73 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/2/04:3/31/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

Newly submitted claims 56-73 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 56, 62, 68 and their respective dependent claims constitute a separate and distinct species from the originally elected claims.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 56-73 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-55 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaufman et al ('997).

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In reference to claim Kaufman et al teaches a metal-polishing liquid material comprising an oxidized metal etchant (Col.6, lines: 25-31), a protective film forming agent (Col.5, lines: 45-65), and a dissolution promoter for the protective film forming agent (Col.6, lines: 30-45)

In reference to claim 2, Kaufman et al teaches further comprising at least one of an oxidizing agent (Col.5, lines: 25-45).

In reference to claim 3, Kaufman et al teaches comprising the ingredient group consisting of the oxidizing agent, the oxidized metal etchant, the protective film forming agent and the dissolution promoter in a divided state into two constituent elements not mixed (Col.8, lines: 50-65).

In reference to claim 4, Kaufman et al teaches wherein the dissolution promoter is a surfactant (Col.6, lines: 30-45).

In reference to claim 5, Kaufman et al teaches wherein the surfactant is at least one of : esters ethers, polysaccharides, salts of amino acids, polycarboxylic acids, salts of polycarboxylic acids, vinyl polymers, sulfonic acids, sulfonates, and amides (Col.6, lines: 30-45 and 60-69).

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In reference to claim 6, Kaufman et al teaches wherein the dissolution promoter is a solvent in which the solubility of the protective film-forming agent is at least 25 g/liter (inherent).

In reference to claim 7, Kaufman et al teaches wherein the solvent is a good solvent for the protective film-forming agent (Col.6, lines: 30-45).

In reference to claim 8, Kaufman et al teaches wherein the solvent is at least one of alcohols, ethers and ketones ethers (ethylene glycol) (Col.6, lines 60-69).

In reference to claim 9, Kaufman et al teaches wherein the amount of the solvent is smaller than 50g relative to 100 g of a total amount of the material (Col.6, lines: 55-60).

In reference to claim 10, Kaufman et al teaches wherein at least a part of the protective film-forming agent is solid having a mean particle size of at most 100 um (Col.7, lines: 50-60).

In reference to claim 11, Kaufman et al teaches further comprising abrasive grains (Col.7, lines: 50-60).

In reference to claim 12, Kaufman et al teaches a metal-polishing liquid which comprises an oxidizing agent (Col.5, lines: 25-40) an oxidized metal etchant (Col.6, lines: 25-31), a protective film forming agent protective film forming agent (Col.5, lines: 45-65), a

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dissolution promoter for the promoter (Col.6, lines: 35-45) for the protective film forming agent, and water (Col.8, lines: 45-50).

In reference to claim 13, Kaufman et al teaches wherein the dissolution promoter is surfactant (Col.6, lines: 35-45).

In reference to claim 14, Kaufman et al teaches wherein the dissolution promoter is a solvent in which the solubility of the protective film forming agent is at least 25 g/liter (inherent).

In reference to claim 15, Kaufman et al teaches wherein at least a part of the protective film forming agent is solid, having a mean particle size of at most 100 um (Col.7, lines: 55-60).

In reference to claim 16, Kaufman et al teaches further comprising abrasive grains (Col.7, lines: 55-60).

In reference to claim 17, Kaufman et al teaches a method comprising a step of diluting the metal-polishing liquid material of claim 2 with a diluent (Col.8, lines: 45-50).

In reference to claim 18, Kaufman et al teaches comprising the step of diluting a metal-polishing liquid material comprising at least one ingredient of an ingredient group consisting of an oxidizing agent (Col.5, lines: 25-40), the oxidized metal etchant (Col.6,

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lines: 25-30)), the protective film forming agent (Col.5, lines: 50-65) and the dissolution promoter (Col.6, lines: 35-45), with an aqueous solution for dilution of at least one ingredient of the ingredient group (Col.8, lines: 45-50)

In reference to claim 19, Kaufman et al teaches a method comprises the step of mixing the following:

A first constituent element that contains at least one ingredient of an ingredient group consisting of an oxidizing agent (Col.5, lines: 25-40), an oxidized metal etchant (Col.6, lines: 25-30), a protective film forming agent (Col.5, lines: 50-65) and a dissolution promoter for the protective film-forming agent (Col.6, lines: 35-45);

A second constituent element that contains at least one of the other ingredients of the ingredient group (Col.8, lines: 55-65);

A diluent (Col.8, lines: 45-50);

Wherein at least one of the first and second element includes a dissolution promoter for the protective film forming agent. (Col.8, lines: 55-65).

In reference to claim 20, Kaufman et al teaches wherein the diluent is water or an aqueous diluent solution (Col.8, lines: 45-50).

In reference to claim 21, Kaufman et al teaches wherein a first constituent element that contains at least one ingredient of an ingredient group consisting of an the oxidizing

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agent (Col.5, lines: 25-40), an oxidized metal etchant (Col.6, lines: 25-30), a protective film forming agent (Col.5, lines: 45-65) and a dissolution promoter for the protective film-forming agent(Col.6, lines:35-45).

In reference to claim 22, Kaufman et al teaches wherein the first constituent element further comprises the protective film forming agent and a dissolution promoter for the protective film-forming agent(Col.8, lines: 55-65).

In reference to claim 23, Kaufman et al teaches wherein in the mixing step, the oxidizing agent and the oxidizing agent containing mixture are kept at a temperature at most 40 °C (Col.8 lines: 55-65-does not teach to heat therefore assumed to be at room temperature).

In reference to claim 24, Kaufman et al teaches wherein at least a part of the protective film-forming agent is solid, having a mean particle size of at most 100 um, and is dissolved or dispersed in the metal-polishing liquid in the mixing step (Col.7, lines: 55-60).

In reference to claim 25, Kaufman et al teaches a method comprising a polishing step of:

Applying the metal-polishing liquid of claim 12 to a polishing pad set on a platen (Col.4, lines: 30-35)), and

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Polishing the surface of an article to be polished with the polishing pad by moving the polishing pad and the surface of the article relatively to each other while keeping the surface of the article in contact with the polishing pad (Col.4, lines: 30-35).

In reference to claim 26, Kaufman et al teaches further comprising a mixing step prior to the polishing wherein:

A first constituent element that contains at least one ingredient of an ingredient group consisting of an oxidizing agent (Col.5, lines: 25-40), an oxidized metal etchant (Col.6, lines: 25-30), a protective film forming agent (Col.5, lines: 50-65) and a dissolution promoter for the protective film-forming agent (Col.6, lines: 35-45);

A second constituent element that contains at least one of the other ingredients of the ingredient group (Col.8, lines: 55-65);

A diluent (Col.8, lines: 45-50);

In any desired order (Col.8, lines: 55-65).

In reference to claim 27, Kaufman et al teaches wherein the dissolution promoter is a surfactant (Col.6, lines: 35-45).

In reference to claim 28, Kaufman et al teaches wherein the surfactant is at least one of : esters ethers, polysaccharides, salts of amino acids, polycarboxylic acids, salts of polycarboxylic acids, vinyl polymers, sulfonic acids, sulfonates, and amides (Col.6, lines: 30-45 and 60-69).

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In reference to claim 29, Kaufman et al teaches wherein the dissolution promoter is a solvent in which the solubility of the protective film-forming agent is at least 25 g/liter (inherent).

In reference to claim 30, Kaufman et al teaches wherein the solvent is a good solvent for the protective film-forming agent (Col.6, lines: 30-45).

In reference to claim 31, Kaufman et al teaches wherein the solvent is at least one of alcohols, ethers and ketones ethers (ethylene glycol) (Col.6, lines:60-69).

In reference to claim 32, Kaufman et al teaches wherein the amount of the solvent is smaller than 50g relative to 100 g of a total amount of the material (Col.6, lines: 55-60).

In reference to claim 33, Kaufman et al teaches wherein at least a part of the protective film-forming agent is solid having a mean particle size of at most 100 um (Col.7, lines: 50-60).

In reference to claim 34, Kaufman et al teaches further comprising abrasive grains (Col.7, lines: 50-60).

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In reference to claim 35, Kaufman et al teaches a method comprising a step of diluting the metal-polishing liquid material of claim 1 with a diluent (Col.8, lines: 45-50).

In reference to claim 36, Kaufman et al teaches wherein the diluent is water or an aqueous diluent solution (Col.8, lines: 45-50).

In reference to claim 37, Kaufman et al teaches wherein the dissolution promoter promotes dissolving the protective film forming agent in water (Col.6, lines: 35-45).

In reference to claim 38, Kaufman et al teaches wherein each ingredient of the ingredient of said ingredient group is a different ingredient (Col.8, lines: 55-65).

In reference to claim 39, Kaufman et al teaches wherein the protective film forming agent, the dissolution promoter, the oxidized metal etchant, the oxidizing agent and water are different ingredients (Compare- Col.5, lines: 25-40, 45-65, Col.6, lines;25-30 and Col.6, lines: 35-45 and 60-69).

In reference to claim 40 Kaufman et al teaches wherein the protective film forming agent is selected from the group of azoles (Col.5, lines: 45-65).

In reference to claim 41, Kaufman et al teaches wherein the dissolution promoter is a surfactant or solvent (Col.6, lines: 35-45).

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In reference to claim 42, Kaufman et al teaches wherein the dissolution promoter is a surfactant (Col.6, lines: 35-45).

In reference to claim 43, Kaufman et al teaches wherein the surfactant is at least one of esters ethers, polysaccharides, salts of amino acids, polycarboxylic acids, salts of polycarboxylic acids, vinyl polymers, sulfonic acids, sulfonates, and amides (Col.6, lines: 30-45 and 60-69).

In reference to claim 44, Kaufman et al teaches wherein the dissolution promoter is a solvent for the protective film forming agent in which the solubility is at least 25 g/liter (inherent).

In reference to claim 45, Kaufman et al teaches wherein the dissolution promoter is at least an esters ethers, polysaccharides, salts of amino acids, polycarboxylic acids, salts of polycarboxylic acids, vinyl polymers, sulfonic acids, sulfonates, and amides (Col.6, lines: 30-45 and 60-69).

In reference to claim 46, Kaufman et al teaches wherein the solubility of the film forming agent is 40 g/l (inherent property of material).

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In reference to claim 47, Kaufman et al teaches wherein the solubility of the film forming agent is 50 g/l (inherent property of the material).

In reference to claim 48, Kaufman et al teaches wherein the protective film forming agent is selected from the group of azoles (Col.5, lines: 45-65).

In reference to claim 49, Kaufman et al teaches wherein the dissolution promoter is a surfactant (Col.6, lines: 35-45).

In reference to claim 50, Kaufman et al teaches wherein the dissolution promoter is a surfactant (Col.6, lines: 35-45).

In reference to claim 51 Kaufman et al teaches wherein the dissolution promoter is at least an esters ethers, polysaccharides, salts of amino acids, polycarboxylic acids, salts of polycarboxylic acids, vinyl polymers, sulfonic acids, sulfonates, and amides (Col.6, lines: 30-45 and 60-69).

In reference to claim 52, Kaufman et al teaches wherein the dissolution promoter is a solvent for the protective film forming agent in which the solubility is at least 25 g/liter (inherent property of the material).

In reference to claim 53, Kaufman et al teaches wherein the dissolution promoter is at least an esters ethers, polysaccharides, salts of amino acids, polycarboxylic acids, salts of

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polycarboxylic acids, vinyl polymers, sulfonic acids, sulfonates, and amides (Col.6, lines: 30-45 and 60-69).

In reference to claim 54, Kaufman et al teaches wherein the solubility of the film forming agent is 40 g/l (inherent property of the material).

In reference to claim 55, Kaufman et al teaches wherein the solubility of the film forming agent is 50 g/l (inherent property of the material).

Response to Arguments

Applicant's arguments with respect to claims 1-55 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura M. Schillinger whose telephone number is (571) 272-1697. The examiner can normally be reached on M-T, R-F 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead, Jr. can be reached on (571) 272-1702. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'LMS', followed by a long, sweeping horizontal stroke that extends to the right.

LMS

1/8/04